



## Traumatic Brain Injury and the Teen

Traumatic brain injury (TBI) is the leading cause of disability and death in children and adolescents in the U.S. According to the [Centers for Disease Control and Prevention](#), teenagers aged 15-19 are one of two age groups at greatest risk for TBI.

- 30 teens die in car crashes every day; car crashes are the number ONE cause of brain injury and death in teens.
- Two thirds of teens killed in crashes were not wearing seatbelts.
- Almost half of all traffic fatalities involving 16 to 24 year olds are alcohol-related.
- The part of the brain responsible for decision-making and impulse control does not fully mature until the mid-twenties.
- 20% of all high school contact sports players sustain brain injuries.

These can be frightening statistics for parents of teens. And yet, through awareness and knowledge, we can change these numbers and lessen the impact on our loved ones.

### Causes of Brain Injury in Teens

The causes of moderate/severe brain injury in teenagers differ from both pediatric and adult brain injury. The teenage years bring the special problems of peer pressure, underage drinking, abuse of alcohol and drugs, gang-related violence, and inexperienced and/or impaired driving. Because of this, teenagers are especially vulnerable to brain injuries and other serious injuries. Many teen injuries caused by the situations above often



result in moderate or severe brain injuries, with sometimes lifelong consequences.

## Concussion

A concussion is caused by a bump, blow, or jolt to the head, and can also occur from a fall or blow to the body that causes the head and brain to move rapidly back and forth. Even a seemingly mild bump to the head can be serious. Concussions can be quite common; they often occur without loss of consciousness, and most resolve (approximately 90%) with no long term problems noted. However, some concussions can result in potential long term physical and/or cognitive problems. Proper recognition and response to the concussion can prevent further injury and help with recovery. Teens are among those at greatest risk for concussion.

The potential for a concussion is greatest during activities where collisions can occur such as contact sports, and can account for a high number of concussions or mild brain injuries. In any given season, 20% of high school contact sports players sustain a concussion. Among teenagers, brain injury is the most common injury in winter sports such as skiing, sledding, ice skating or ice hockey, accounting for 46% of all injuries. Teens who have experienced a concussion or suspected concussion should be followed closely by their primary care physician (PCP). A follow-up visit with the PCP after the event can offer the opportunity for families to ask questions and for the PCP to assess the child for ongoing symptoms. It is vitally important to assess for post-concussion symptoms to determine if further evaluation is needed. The follow-up visit can also provide an important opportunity for



discussion of age-appropriate injury prevention to minimize the possibility of subsequent concussions. Teens who display the symptoms listed below for more than several weeks after a concussion may require further assessment and/or evaluation by a neuropsychologist, neurologist, or other specialist.

*Teens should NEVER return to sports/recreation activities on the day of the injury, and should delay a return to any physical activity until they are symptom-free and have received clearance from their physician.*

### Acute signs and symptoms of a concussion:

- Vomiting, headache, balance problems, dizziness, blurry vision, drowsy
- Difficulty with thinking clearly, concentrating or remembering; feeling sluggish or groggy
- Restlessness or irritability, nervous, more emotional than usual

### General Symptoms of Brain Injury

Symptoms can result in physical, cognitive, communication and/or social/behavioral impairments, and may occur to different degrees. The nature of the injury and consequences can range from mild to severe, and the course of recovery is often very difficult to predict. With early diagnosis and ongoing therapeutic intervention, the severity of these symptoms may decrease in varying degrees. Symptoms can vary greatly depending on the extent and location of the brain injury, and it may be years before the deficits from the injury become apparent.



## Return to School

When a teen with TBI returns to school, their educational and emotional needs are often very different than before the injury. Their disability has happened suddenly and traumatically. They can often remember how they were before the brain injury. This can bring on many emotional and social changes. The student's family, friends and teachers also recall what the teen was like before the injury and may have trouble adjusting their expectations accordingly.

It is extremely important to plan carefully for the student's return to school. Parents will want to find out ahead of time about accommodation plans (504 Plan) and special education services (IEP) offered in their community. This information is usually available from the school's principal or special education teacher. The school will need to evaluate the student thoroughly. This evaluation will let the school and parents know what the student's educational needs are. The school and parents will then develop a 504 Plan or an Individualized Education Program (IEP) that addresses those educational needs.

- Remember the IEP is a flexible plan. It can be changed as the parents, the school and the student learn more about what the student needs at school.
- Learn about TBI. The more you know, the more you can help yourself and your teen. See the list of resources and organizations below.



- Work with the medical team to understand your teen's injury and treatment plan. Don't be shy about asking questions. Tell them what you know or think. Make suggestions.
- Keep track of your teen's treatment. A 3-ring binder or a box can help you store this history. As your teen recovers, you may meet with many doctors, nurses and others. Write down what they say. Put any paperwork they give you in the notebook or keep it in the box. If you are asked to share your paperwork with someone else, make a copy. Don't give away your original.
- Talk to other parents whose children have sustained a brain injury. There are parent groups all over the U.S. Parents can share practical advice and emotional support. Check with the Brain Injury Association of MN to find a parent group near you.
- Prevention To reduce the risk of sustaining a TBI, teens should:
- Wear a seat belt every time they drive or ride in a motor vehicle; do not drive without supervision if teen is inexperienced; do not speed.
- Wear helmets that are fitted properly; use the right protective equipment for sports and recreation, and make sure it is maintained properly.
- Avoid all use of drugs and alcohol.
- Avoid pedestrian injury by wearing reflective clothing at night.



To reduce the risk of TBI in teens, parents/community should:

- Provide a safe recreational/sports environment and adequate adult supervision.
- Seek help for your teen if you suspect drug or alcohol use, or notice unexplained changes in behavior.
- Do not allow your teen to drive alone or with friends if they have insufficient driving experience.
- Talk with your teen about ways to solve arguments and fights without guns and violence.

## Resources

Information taken from the Brain Injury Association of America; and Centers for Disease Control and Prevention.

### **Additional resources**

- MN Dept. of Education: <http://www.education.state.mn.us/>
- MN Low Incidence Projects:  
<http://www.mnlowincidenceprojects.org/Projects/tbi/index.html>
- MN Brain Injury Alliance: [www.braininjurymn.org](http://www.braininjurymn.org)  
Phone: (612) 378-2742 (800) 669-6442
- National Brain Injury Association of America: [www.biausa.org](http://www.biausa.org)  
Phone: (800) 444-6443



- Department Of Health and Human Services, Centers for Disease Control and Prevention (CDC)

[www.cdc.gov/TraumaticBrainInjury/index.htm](http://www.cdc.gov/TraumaticBrainInjury/index.htm)

***For more information and resources***, contact your district or regional TBI educational specialist; or

**Kelly Bredeken, Ed. S.**, Statewide PI & TBI Specialist

MN Regional Low Incidence Projects

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